

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method of screening *in vitro* for modulators of RDGC GPCR phosphatase activity, the method comprising the steps of:
 1. (i) providing a first sample comprising a wild type rhodopsin G protein-coupled receptor and a Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO:1;
 1. (ii) contacting the first sample with a test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity;
 1. (iii) providing a second sample comprising a mutant rhodopsin lacking the last 18 amino acids at the cytoplasmic terminus as compared to wild type and a Drosophila RDGC phosphatase comprising the sequence set forth in SEQ ID NO: 1; the rhodopsin G protein coupled receptor and a mutant Drosophila RDGC phosphatase;
 1. (iv) contacting the second sample with the test compound suspected of having the ability to modulate RDGC GPCR phosphatase activity;
 1. (v) detecting Drosophila RDGC GPCR phosphatase activity in the first sample and in the second sample; and
 1. (vi) comparing detecting a change in the level of Drosophila RDGC GPCR phosphatase activity in the first sample contacted with the compound and the second sample, thereby detecting RDGC GPCR phosphatase activity; thereby detecting modulators of RDGC GPCR phosphatase activity;
 1. wherein the test compound is a RDGC mimetic.
1. 2.-4. (canceled)
1. 5. (previously presented) The method of claim 1, wherein the rhodopsin is recombinant.

1 6. (previously presented) The method of claim 1, wherein the step of
2 detecting comprises a G-protein coupled receptor phosphorylation assay.

1 7. (previously presented) The method of claim 1, wherein the step of
2 detecting comprises a G-protein coupled receptor mobility assay.

1 8. (previously presented) The method of claim 1, wherein the step of
2 detecting comprises a G-protein coupled receptor signal transduction assay.

1 9. (previously presented) The method of claim 1, wherein the first sample
2 and the second sample comprise a cell.

1 10. (previously presented) The method of claim 9, wherein the cell is selected
2 from the group consisting of a eukaryotic cell, an insect cell, a mammalian cell.

1 11. (previously presented) The method of claim 10, wherein the cell is
2 selected from the group consisting of a Drosophila cell or a human cell.

1 12. (previously presented) The method of claim 1, wherein the first sample
2 and the second sample comprise a membrane comprising a G-protein coupled receptor.

1 13. (previously presented) The method of claim 1, wherein the first sample
2 and the second sample comprise an aqueous sample or a solid-phase sample.

1 14. (canceled)

1 15. (currently amended) A method of screening a cell for modulators of
2 RDGC GPCR phosphatase activity, the method comprising the steps of:
3 (i) providing a first cell comprising rhodopsin and a Drosophila RDGC
4 phosphatase comprising the sequence set forth in SEQ ID NO:1;
5 (ii) contacting the first cell with a test compound suspected of having the ability to
6 modulate RDGC GPCR phosphatase activity;

1 16. (canceled)

1 17. (previously presented) The method of claim 15, wherein the rhodopsin is
2 recombinant.

1 18. (canceled)

1 19. (previously presented) The method of claim 15, wherein the first cell and
2 the second cell are selected from the group consisting of a eukaryotic cell, a mammalian cell, an
3 insect cell.

1 20. (previously presented) The method of claim 19, wherein the first cell and
2 the second cell are selected from the group consisting of a Drosophila cell or a human cell.

1 21. (canceled)

22. (previously presented) The method of claim 15, wherein the first cell and
the second cell comprise an aqueous sample or a solid-phase sample.

1 23.-38. (canceled)